

REMARKS

Applicant respectfully requests reconsideration of this application as amended.

As a preliminary matter, in the Office Action mailed December 19, 2003, the Examiner did not attach an initialed copy of the PTO-1449 form references that were mailed to the PTO on October 3, 2003. As such, applicant respectfully requests that the Examiner indicate that these references have been considered and made of record.

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected claims 1-4, 7 and 10 under 35 USC 103(a) as being unpatentable over Uglow et al. (U.S. Patent No, 6,251,770) in view of Yew et al. (U.S. Patent No. 6,159,845). The Applicant respectfully traverses. According to MPEP 706.02(k), in order to establish a prima facie case of obviousness under 35 USC 103(a) the prior art references must teach or suggest all of the claim limitations. The cited prior art references do not teach or suggest all of the Applicant's claim limitations, either individually or in combination. In particular, the cited references do not teach or suggest the claim limitations of independent claims 1, 7, and 10.

Independent claim 1 claims forming a carbon doped oxide layer with a higher concentration of carbon dopants near the bottom of the layer and a lower concentration of carbon dopants at the top of the layer, where the lower concentration of carbon dopants forms a hard mask. In contrast, Uglow teaches the opposite. Uglow teaches forming a carbon doped oxide layer with a lower concentration of carbon dopants near the bottom of the layer and a higher concentration of carbon dopants near the top of the layer. Uglow therefore fails to teach or suggest a hard mask formed by the lower concentration of carbon dopants at the top of the carbon doped oxide layer. Yew fails to teach or suggest varying the concentration of carbon within a carbon doped oxide layer.

Independent claims 7 and 10 teach forming carbon doped oxide layers with three different concentrations of carbon. Claim 7 teaches the claim limitations of a first layer having a first concentration of carbon dopants, a second layer above the first layer having a second concentration of carbon dopants, and a third layer above the second layer having a third concentration of carbon dopants and wherein the first and third layers have higher concentrations of carbon than the second layer. Claim 10 teaches the claim limitations of first, second, and third layers of carbon doped oxide and wherein the first and third layers have lower concentrations of carbon than the second layer. Both Uglow and Yew fail to teach or suggest these claim limitations. Uglow teaches forming a carbon doped oxide layer with a lower concentration of carbon dopants near the bottom of the layer and a higher concentration of carbon dopants near the top of the layer. Yew fails to teach varying the

concentration of carbon within a carbon doped oxide layer. Additionally, it would not be obvious to form the carbon dopant concentration gradients claimed by the Applicant in claims 7 and 10 because the claimed concentration gradients are selected to reduce electric field fringe effects arising from the first metal layer below the carbon doped oxide.

Therefore, the Applicant respectfully submits that the independent claims 1, 7, and 10 and the claims that depend from these independent claims, are not rendered obvious in light of Uglow in view of Yew.